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ABSTRACT

Whereas Maria Montessori believes that humans are born with a divine animating spirit, John Dewey believes that no such spirit exists, and that it is society which shapes the child. Their definitions of education reflect this difference. For Montessori, education is a natural process that develops spontaneously in the human being, and formal education assists the child in this spontaneous process. For Dewey education is growth, and the continuous reconstruction of experience and formal education guides that growth in a desired direction. Both agree on some basic principles of effective education: (1) learning is not passive reception of information; (2) the child forms mental images by using things, not by being told about them; (3) much of learning is unconsciously absorbed from the environment; (4) learning is growth--actual physical change--that occurs within the individual; and (5) learning occurs through purposeful interaction with the environment. In translating theory into practice, each overemphasized his/her own point of view. Montessori overstressed the individual's skills development and delayed the problem solving experience, while Dewey concentrated on the group approach and overlooked individual needs. A synthesis of the two approaches is needed. (HOD)

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MONTESSORI AND DEWEY: A COMPARISON OF THEIR THEORY AND PRACTICE

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INTRODUCTION

Around the turn of the 20th century two great educators were at work on opposite sides of the Atlantic. One, Maria Montessori, an Italian-born Catholic and the first woman to earn a medical degree in that country, began her work with mentally deficient children. Her influence is now felt world wide. The other, John Dewey, an American-born philosopher and college professor, translated his theory into practice at a school associated with the University of Chicago. His influence was felt in the United States through what became known as the Progressive Movement.

The work of each has been misunderstood, ridiculed, diluted and espoused by many. Much of their contribution has been lost in the process. This is a waste we in education cannot afford.

In an effort to recover some of that loss, I have returned to the original writings of each and compared the basic principles in their philosophy and practice. I have determined the common ground in their theory and discovered the cause of their disagreement. I have analyzed their practice and selected what I believe to be the most valuable to keep and build upon. My purpose has been to establish a theoretical foundation for practice which draws upon the best of both.

I. THE NATURE AND PURPOSE OF MAN

Montessori

Montessori believes that man has within him a universal animating spirit which powers his growth. This universal spirit, vital urge, inner drive or "horme" (1) is a positive force seeking to assert itself in man as it does in all living things. This constructive divine force operates in all nature according to the predetermined inner pattern of the individual.

Other animals have fixed instincts to serve as their inner pattern, but man has milder, guiding instincts, nebulous urges without form, or creative sensitivities (2) which determine the course of his development. Montessori envisions these guiding instincts as sensitive spots in the brain, or "nebulae" which correspond roughly to the genes for physical development. (3) They serve as a pattern for the formation of mental structures, a center around which the individual constructs his mental organs, but they do not limit or predetermine their exact form. They lie dormant until awakened by the antimating spirit.

When the animating spirit activates the nebulae, the individual engages in intensive, repetitive physical activity. This activity improves and refines the physical organs associated with that particular part of the brain, which in turn builds and perfects the mental structure. It is obvious to those around

the child when a particular mental structure is being formed; he seems driven to work tirelessly for long periods of time to perfect a particular skill. When the child exhibits this intense interest and repetitive activity, he is in his "sensitive period"(4) for that characteristic. For instance, when the child manifests great interest in the language of others and talks incessantly, he is in his sensitive period for language.

This activity takes place not in a vacuum, but in a physical, a social environment. That environment determines the particular form the mental structures and physical organs take. Thus it is in the early years, brom birth to six, when the child is actively forming his mental structure, that he takes on the characteristics common to his native group. He will retain forever the influence of the environment in which he lives during these years because he has absorbed the attitudes and practices of those around him, and they have literally become a part of him.

Consider language as an example of how her theory works. The nebulae for language lies dormant within the individual until activated by the vital urge at the period his inner timetable dictates. The child is then in the sensitive period for language, is keenly interested in the language of those around him and attempts to speak. This activates the physical organs involved in speech and these are shaped according to the particular society in which he is growing. He absorbs his native language with little conscious effort, with the exact accent of his locality. So the sensitivity

for language, how and when he acquires it, is inborn, but the kind of language adopted is determined by the environment.

This process closely parallels the embryonic period of physical development which occurs before birth. The difference is that man's mental embryonic period occurs after birth, when it can be influenced by the environment. It is this fact which holds man's great promise. What the child can make of himself is practically unlimited. Not only does society perpetuate itself in the young and create the traits it desires for the new generation, but it can help the child create a new form of man, a man with highly perfected awareness, knowledge and skill.

Up to this point in history, however, man has failed to recognize and allow for the formative task of the child. Adults have been the major obstacle in the child's environment, too often regarding the child's actions as bothersome, annoying or meaningless. They have caused him to deviate from his inner pattern and kept him from realizing fuller formation of his psychological powers.

Not only has the child been stunted in his mental powers, but he has been kept from revealing his true social nature. When he deviates from his innate pattern of development, he exhibits troublesome behavior (shyness,violence, whining, excessive dependence, etc.) which the adult mistakenly assumes to be part of the child's inborn nature. The adult then concentrates his energies on correcting these traits by compelling or enticing the child into more acceptable behavior. If, instead, the adult

would recognize and provide for the child's attempts to form himself according to his inner guide, such behaviors (self-discipline, concentration, orderliness, etc.) would simply emerge.(5)

So, human nature, the divine spirit manifesting itself through the life of the child, is good. It is constructive, creative and has a purpose beyond its own perfection. Further, there is an economy in nature which, once it has endowed a living thing with a special quality, uses that quality. Each living thing, according to the special quality with which it is endowed, has a contribution to make to the unity of nature. Man, with his superior intelligence, his prolonged, adaptive mental embryonic period, has the potential and thus the responsibility to create higher forms of man and ultimately to continue the act of divine creation by perfecting new forms of plants, animals and inorganic substances. We have only to recognize and provide for the full release of man's creative potential to help man realize his ultimate purpose.

In summary, Montessori believes that hidden within the child is the secret of the true nature of man. Urged by a universal force to interact with the environment according to an inner guide, the child strives to create man. Adults fail to realize the formative work of the child and stand as a major obstacle, causing the child to fall short of his mark. For this reason, mankind has not reached its full potential. We must look to the child and let him guide us as he strives to fulfill his act of creation; he will lead us to the revelation of the purpose and power of man.

5

Dewey

Dewey denies the existence of latent intellectual powers in the newborn, and argues instead, that man has a great number of original native tendencies based on the original connections of neurons in the central nervous system. These tendencies react to changes in the environment in order to effect other changes. (6) If an infant's throat fills with milk, for example, he coughs to clear his breathing passage. These primitive impulses are neither good nor evil, but become one or the other according to the use to which they are put.

There is no divine animating spirit, but the state of immaturity is a positive force. It is the ability, or power, to grow. The child doesn't passively lie around waiting to be forced by discomfort to do something. He grows of his own accord. This fact suggests that immaturity is already something constructive.(7)

This power to grow depends on native mechanisms (tendencies or primitive unlearned instincts). One such tendency is an impulse to be socially responsive, for, coupled with his physical dependence on others, the child has a strong natural interest in the activities of others. It is through this interest and his primitive unlearned instincts of exploring and experimentation that the child joins in with others in tasks, that he seeks to work with things, to use them as others use them.(8) This is vitally important because it is through using things with others that the child comes to understand the common purposes of the group, to refine skills, develop understandings of things and form the dispositions (systems of behavior) and attitudes of society. 6

Another important native mechanism is plasticity, i.e. the ability to retain learning from one experience to the next. The child actually changes, or grows, through experience so that he is able to bring to each new situation understanding gained through previous experience. This allows him to make progressive, continuous growth through a process known as intelligent experience.*

Intelligent experience, the means of individual and social growth, is not an inborn practice. It is a way of approaching things, a habit, which must be fostered in the young. They must be encouraged to work effectively to fulfill man's purpose, the promotion of human well being. In other words, because the native responses are neither good nor evil, it is up to society to shape the individual so that he not only develops the habit of intelligent experience, but that he uses it for the common good. When the individual members of a group behave in this way, that is, formulate and have a say in the common purposes of that group, that society is democratic.

The complexity of our society and its rapid rate of change make it necessary that the adult consciously provide intelligent experience, i.e. formal education, for the young in order to attain a democratic society. In simple cultures the young absorb the common purposes of society through informal sharing of activities in the home, workplace and ceremonial gathering. As societies become more complex, as man uncovers the connections between things

*Dewey's Method of Intelligent Experience is described in detail in Part II.

in nature and puts them to his use, it becomes increasingly more difficult to convey understandings, skills and common purposes to the young.

When faced with the need to help children acquire understanding and attitudes, the work of countless generations, in just a few years of formal schooling, the tendency has been to forget that man learns in the informal setting by using things as others use them. Adults try to transplant skills, information and attitudes directly to the child, usually by talking. In so doing, they either fail to make any impression, or they train the child to make certain outward responses when faced with a particular situation. This leaves the child unable to think through the situation himself to make his own decision. The individual who is merely trained, rather than educated, lacks the ability to analyze situations and share in decisions concerning the purpose of his own actions. He can only carry out the purposes of those who dictate to him.

Concern with the difference between training and education and the effect that each has on society, lies at the heart of Dewey's theory and practice. To the extent that individual members are educated, that is, can act intelligently to formulate and have a say in the common purposes of the group, that society is democratic. To the extent that individual members are trained, that is, act only according to the purposes of others, that society is not democratic. Dewey advocates formal education to promote a democratic society.

In summary, the infant is born with an infinite variety of responses and certain native tendencies which are neither good nor bad. Society shapes the individual, calling out the responses which promote its common purposes. Due to the increasing complexity and change in present day society, adults try to shape children directly, attempting to transplant information, ideas and attitudes by telling them about things instead of engaging them in their use. We must provide situations which encourage the child to engage in intelligent experience in order to promote a democratic society.

Comparison

The question of a divine antimating spirit lies at the heart of the difference between the views of these two educators. Since Montessori believes that man is born with a divine antimating spirit, she is always focused on the child, attempting to perceive how that spirit is manifesting itself. Since Dewey believes that no such spirit exists, and that it is society which shapes the child, he is always focused on how society accomplishes this.

Based on these different views, each has a different problem. Montessori must figure out how to help man in his act of creation of self and nature. Dewey must figure out how to help society promote man's ability to share in the common purposes of the group, to work toward the well being of man.

Their definitions of education reflect this difference. For Montessori, education is "...a natural process which develops spontaneously in the human being." (9) Formal education assists the child in this spontaneous process. For Dewey education is growth, "the continuous reconstruction of experience..." (10) Formal education guides that growth in a desired direction.

Each educator works out his problem through the agent on which he is focused. For Montessori the individual is that agent, for Dewey it is society. Each formulates practical methods in the process of testing his theory.

In following their paths, these educators have provided future educators with insights and practice of great value. And each, from focusing so intently on either the individual or the group, has certain biases in practice which we must recognize and avoid. The next section deals with these insights and their practical implications.

II. INSIGHTS INTO THE EDUCATIONAL PROCESS

Need for Informal Methods

Montessori and Dewey share common insights concerning the educational process. They both strongly denounce the educational methods of their day. They criticize practices which keep children silent and immobile, manipulate them through threats of punishment or promises of reward and force them to listen and repeat back second-hand information about the world. Montessori says,

> ...the kind of education still in vogue condems the teacher to be a dictator... Teachers of the older school hold firmly to irrational rules and have little to guide them but illusion and prejudice. Between the tyranny of (political) dictators and the tyranny of teachers there is a real difference, for while the first may use harsh means constructively, the same means in the hands of the second can only be destructive. (11)

Dewey adds,

> (When analyzing what is usually done in schools we see that) almost everything testifies to the great premium put upon listening, reading, and the reproduction of what is told and read. It's hardly possible to overstate the contrast between such conditions and the situations of active contact with things and persons in the home... No one has ever explained why children are so full of questions outside of the school (so that they pester grown-up persons if they get any encouragement) and the conspicuous absence of display of curiosity about the subject matter of school lessons. (12)

Agreeing that schools fall far short of the ideal situation, that they actually impede the child's development, they each point out that the child makes tremendous growth in his preschool years and in "real life" situations ouside of school. They each analyze such informal methods to determine the basic principles involved and and their findings, described below, are practically identical.

Montessori and Dewey: Basic Principles of Effective Education

1. Learning is not passive reception of information; it is not something we give to the child. The educator cannot directly transfer understanding, skill and ideas. In Montessori's words, "...the child is not an inert empty vessel that we have to fill.(13) And, Dewey echos, "...we are forced to surrender our habit of thinking of instruction as a method of pouring knowledge into a mental and moral hole which awaits filling."(14)

2. The child forms mental images by using things, not by being told about them. Montessori claims that the child forms mental structures as he interacts with the environment. Dewey explains that the infant, before he has the use of oral language, forms understanding (mental structures, mental images, ideas) by using things in conjunction with others. He comes to understand "spoon-ness, milk-ness and chair-ness" by using spoons, milk and chairs. No one is able to communicate with him in any other way, so his understanding must come through conjoint use.

It's important to fully recognize use as the primary means of forming ideas, because after the child has language so that we can elaborate on his mental images through verbal explanation, we are tempted to rely on talk alone. We fall into the trap of telling him about things instead of providing opportunities for experience. This is where formal education usually goes wrong.

We must continue to rely on USE as the first and most powerful means of forming new mental images, greater understanding and ideas.

3. Much of learning is unconsciously absorbed from the environment. Montessori focuses on the young child, from birth to six, and notices that he has the unique ability to gain skill and information with little conscious effort. She refers to the child of that age as having an "Absorbent Mind." She explains that the child's mind is not the same as the adult's and that,

> ...it may be said that we (adults) acquire knowledge by using our minds; but the child absorbs knowledge directly into his psychic life. Simply by continuing to live, the child learns to speak his native tongue. A kind of mental chemistry goes on within him...the child undergoes a transformation. Impressions do not merely enter his mind; they form it.(15)

Dewey agrees. He explains that speech, manners, good taste and aesthetic appreciation are all absorbed through the "unconscious influence of the environment"(16) in such a subtle and pervasive way that it affects every fiber of character and mind. Against this, conscious teaching can only convey second-hand information as to what others think. Both he and Montessori point out that an individual never fully breaks away from the influence of his mother-tongue and that one who has tried to do this will fall back into old habits in times of stress.

Dewey doesn't make an age distinction when referring to this phenomenon, but Montessori bases most of her classroom practice on the belief that this ability diminishes after six. She believes we should make every effort to help the child perfect himself during this period of the Absorbent Mind.

4. Learning is growth, actual physical change which occurs within the individual. Montessori envisions this growth as formation of mental structures in the early years (Birth - 3) and coordination of those mental structures in the later years. These structures, she claims, can be exercised to perfection in much the same way physical structures can be exercised. Dewey does not agree with the notion of isolated exercise of faculties as a valuable means of perfection. He insists that they must be used for a purpose beyond their own perfection and that through such use they will be refined. He describes growth as the continuous reorganization and reconstruction of experience. The individual retains mental images from one experience to the next. With new experience, these change and mix around to form new connections, thus creating greater understanding, new ideas and new mental images.

5. Learning occurs through purposeful interaction with the environment. Purposeful activity is not mindless toying. It is not memorization of facts to gain reward or avoid punishment. It is activity undertaken by the child because he wants to accomplish something of importance to him.

Both educators found that children engaged in such activity exhibit attention, interest, self-discipline, will power and exert great effort to overcome obstacles. They agree that purposeful activity is the key to the learning experience.

III. CLASSROOM APPLICATION: PURPOSEFUL ACTIVITY

Having agreed on the need for purposeful activity, each educator must define exactly what that purpose will be, and each returns to his own view of the nature of the child in search for an answer. Montessori looks again to her original theory that by exercising the mental structures as they ripen during the successive sensitive periods, the individual will perfect himself and thus reveal the true nature of man. Dewey relies on his view that the individual is not guided by an inner pattern, but instead is molded by society. Predictably, the purpose of the activity they provide is different.

Montessori: Perfection during the Sensitive Periods

Montessori provides activities designed to develop skills. Some of these activities, such as gardening, serving at table and caring for one's clothing have an ultimate practical purpose beyond skill development. But she also offers exercises which have no purpose beyond the exercise they provide. These activities include such things as spooning rice from one container to another, sorting buttons for size and color, lining up graduated cylinders according to size, using beads to make arithmetic calculations and learning the names of forms in nature.

In working out such classroom practice, she provides the educator with valuable insight into the individual developmental needs of the child. She discovers, for example, that during the

child's sensitive period for oral language, at about age four, he can learn to write with the same joy, enthusiasm and apparent ease with which he earlier learned to speak. She also finds that once this period is over, the child must work harder to accomplish the same thing. In other words, there is an optimum time for developing the various faculties and the sensitive teacher can provide experiences which take advantage of that time.

She leaves us with materials and techniques to use during these sensitive periods and some of these are very effective when it does become necessary to help the child practice a certain skill. She is perhaps best known for these materials, but this is not her major contribution. In fact, the obsession with this detail of her work threatens to overshadow the real contribution she makes.

(She and Dewey were both influenced by Froebel who also worked out materials and activities which were to be used in a precise manner. Much of the value of his work was lost because, as Dewey explains, "...in the worship of external doings discussed by Froebel we have ceased to be loyal to his principle." (17) The same is true of Montessori.)

Of much greater value is the model she provides for establishing and maintaining classrooms with a workshop atmosphere where children work at their own pace, individually or in spontaneously formed small groups. In these classrooms, where children are free to choose constructive activity, a self-disciplined, cohesive

group spirit emerges. Children use materials with care and respect their own work and the work of others. In short, Montessori provides detailed instructions for establishing a classroom based on self-selected, individualized activities which meet the child's developmental needs.

Dewey: The Method of Intelligent Experience

Dewey provides activities to develop individuals who can respond with flexibility to change and who will use that ability for the common good of man. He argues that activity with no purpose beyond exercise of an isolated skill is too narrow, too limiting in its effect, that it merely trains the individual to respond to that one set of circumstances. He is particularly concerned that this leaves the individual able only to serve someone else's purpose, unable to think for himself in new situations.

Dewey's problem solving approach, the method of intelligent experience, outlined below, is an extremely valuable guide to follow when planning purposeful activity for students of any age.

The Method of Intelligent Experience (18)

1. The individual is confronted with a situation.
2. He poses a problem. This must be something of genuine concern to him, not something imposed by someone else. Finding a solution to the problem becomes the ultimate PURPOSE of his activity.
3. He gathers data, takes in information about the situation, i.e. undergoes impressions from the environment.

4. He reflects on this new data by comparing it, making connections with ideas he has retained from past experience and, keeping his purpose in mind, he forms some tentative conclusions, decides on some action.

5. He tries out his ideas, tests his decisions.

6. As soon as he acts on the environment, the situation is changed and he begins the process again. He is also changed because of the new ideas he has formed as a result of his first cycle through this process. This second cycle will change both him and the situation again. This change, this new awareness, is growth, learning, education.

The extent to which the purpose belongs to the individual, is of real concern to him, is not imposed from without by promises of reward or threats of punishment, it's pull is strong. Purpose which strongly attracts the individual evokes interest, attention and the will to undergo and analyze numerous difficulties, to try out various solutions. Because the individual has the quality of plasticity, can permanently change and retain the impressions he gets from these experiences, he grows in his awareness of the connection between things in the environment, i.e. is educated.

This process of intelligent experience is both the means and the end of education. Formal education, the role of the teacher, is to create situations which provide for continuous growth in a desired direction through progressively more complex intelligent experience. As with Montessori, the details of Dewey's group activities are interesting and helpful, but this problem-solving method is his major contribution.

Comparison: Purposeful Activity

This question of purpose, that is, whether the child should work at the development of isolated skills or the habit of group problem solving is the central issue, the source of disagreement between the two. At first glance, the practice each advocates seems completely different in this respect. But, a closer look reveals that the difference is really a matter of timing and emphasis.

Montessori emphasizes perfection of skills from the ages of 2½ - 12, but after that she moves completely to a group problem solving approach. At first she has the child work on such things as the sound and form of each letter of the alphabet, the parts of speech, arithmetic calculations, names of geographical features, etc. He develops a high degree of skill, but he doesn't use that skill to pursue his own interests, to gather, process and communicate information. Then, for older children she makes a radical change. She has adolescents attend a country boarding school where they are responsible for operating a farming community. (19) They work together to run a hotel, dining rooms, retail store, etc. They produce and sell goods and take care of other economic matters.

She manages to out-do Dewey in providing real-life experience once she feels the child is ready, but it seems questionable whether it is necessary to delay for so long. Do those highly developed skills transfer to the real-life situation effectively enough to warrant spending years to acquire them? It seems that

the child's time would be better spent on a mixture of problem solving and skill development from the very beginning.

Dewey, on the other hand, takes children into school at age 4 and begins immediately with group activities revolving around problems concerning man's need for food, shelter and clothing. For instance, in the early years the child might help design, make and use a fishing net. In the later years he might design, construct and use a furnace for the smelting of iron ore in order to fashion weapons and tools needed for survival. (20)

It is Dewey's concern for developing a group spirit, the habit of working toward common goals, which prompts him to insist on group activites. Montessori argues, however, that when children are allowed to work individually, with the freedom to interact with and consider the rights of others, a group spirit spontaneously emerges. She claims to have witnessed repeatedly in her schools a willingness to put the needs of the group ahead of individual desires.

There are dangers inherent in treating children predominantly as members of a group: individual children may be overlooked, group activites will probably not match the needs and interests of each child, and some personalities may be overshadowed by others. These are legitimate concerns which deserve our attention, so Montessori's claim that children can be allowed to work on individual projects and still develop a group spirit is worth testing.

There is also a risk in insisting, as Dewey does, that skills only be introduced when needed for problem solving. For instance, he is so concerned that skills not be taught apart from their use

that he allows the children to go without written language skills until they need them for gathering data to solve a specific problem. By then many of them may resist taking the time to work on them. He was aware of this problem, and in evaluating his school in Chicago, he concedes,

> ...it is possible, in the early years, to appeal in teaching the recognition and use of symbols, to the child's power of production and creation...failure sufficiently to take account of this fact resulted in an undue postponement of some phases of these lines of work, with the effect that the child, having progressed to a more advanced plane intellectually, feels what earlier might have been a form of power of creation to be an irksome task. (21)

Dewey recognizes timing as important and cautions, "Capacities bud and bloom irregularly; there is no even four-abreast development. We must strike while the iron is hot."(22) But he does not make this a pivotal factor in determining practice. Group problem solving still takes precedence over individual "budding and blooming", particularly in the early years.

CONCLUSION

Each of these original thinkers has made tremendous contributions to the understanding of the basic principles involved in the learning process. They have demonstrated that effective formal education must mirror informal methods and that learning comes through purposeful activity.

In translating theory into practice each has over emphasized his own point of view. Montessori has over stressed the individual's skill development and delayed his problem solving experience; Dewey has concentrated on the group approach and overlooked individual needs.

A synthesis of the two approaches is what is indicated. We need to alter Dewey's advice (23), to make it read,

> ...give the child something to do
> which meets his developmental needs,
> not something to learn.

FOOTNOTES

1. Maria Montessori, The Absorbent Mind, The Theosophical Publishing House, Madras, India, 1964, p. 85.
2. Ibid., p. 72.
3. Ibid., p. 51 and 82.
4. Montessori, The Secret of Childhood, Orient Longmans Limited, Calcutta, India, 1966, p. 34.
5. Ibid., pp. 170-200.
6. Dewey, Democracy and Education, The Macmillan Co., 1916, p. 73.
7. Ibid., p. 51.
8. Ibid., p. 368.
9. Montessori, The Absorbent Mind, p. 6.
10. Dewey, Democracy and Education, p. 93.
11. Maria Montessori, The Absorbent Mind, p. 256.
12. Dewey, Democracy and Education, p. 8.
13. Montessori, The Absorbent Mind, p. 14.
14. Dewey, Democracy and Education, p. 61.
15. Montessori, The Absorbent Mind, p. 25.
16. Dewey, Democracy and Education, p. 21.
17. Dewey, The Child and the Curriculum and The School and Society, Phoenix Books, The University of Chicago Press, Chicago, 1959.
18. This outline is distilled from Dewey,"Thinking in Education", Chapter XII, from Democracy and Education, p. 179-192.
19. For a description of such a school, see Montessori, From Childhood to Adolescence, Schocken Books, N.Y. 1973.
20. For a fascinating description of how Dewey's ideas were translated into practice under his direction, see Mayhew and Edwards, The Dewey School, Atherton Press, N.Y. 1965.

21. Dewey, The Child and The Curriculum and the School and Society, p. 114.

22. Dewey, Democracy and Education, p. 136.

23. The original quote appears in Democracy and Education on page 181 and reads, "...give the pupil something to do, not something to learn."

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